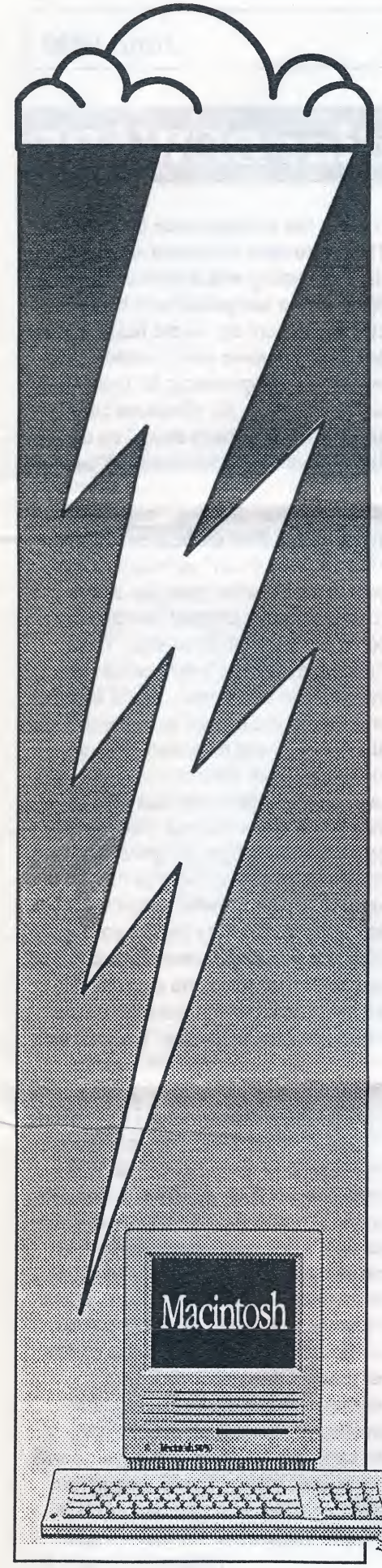


THUNDER Enlightening

Volume 7, No. 6 June 1990

An Ear to the Ground

The Latest News, Events, and Speculation in the Macintosh Community

TEMPO+TOOLS TO AUTOMATE MAC

Affinity Microsystems Ltd.'s Tempo+Tools make automation tools accessible to Macintosh end users. The company also markets Tempo v1.0 for Macintosh, Tempo II for Macintosh and Temp for Windows including a version for Windows 3.0. The tools include Tempo+Externals, utilities that run as macros to get "hidden" information or perform additional operations for Tempo II, Tempo+Menu, which provides a drop-down menu of user-selected macros and handles variables for externals, Tempo+Viewer, an application that "opens" Tempo II macros to display the complete contents and Tempo+HyperTools and Excel Register that allows Tempo II macros to be played by HyperCard scripts and Excel macros.

According to the company, Tempo+Tools doubles the power of Tempo II to automate Macintosh activities within and between applications. Using the Tempo+Tools, printing macros can wait for previous jobs to finish before continuing, macros can perform based on screen graphics, alert macros can "talk" to users and macros can perform such feats as open sequential files, type out text that has been copied in, type current dates and times in 22 formats and add vital productivity aids previously unavailable to end users.

Affinity President Richard H. Barron says: "Providing the Tempo+Tools is like opening the Mac and adding slots. It provides an open-architecture frameworkfor Tempo II, giving direct access to Tempo, not only by user actions but from calls which an application can make as well. And, the ability for programmers to write their own Tempo+Externals makes for unlimited additional capabilities."

Tempo+Tools is available to registered Tempo owners for $29.95. Users who have previously upgrades from Tempo II version 1.0 or who have purchased a previous version of Tempo II externals from Affinity will receive a $10 discount.

MICROSOFT MAIL IN PAGEMAKER

Microsoft has announced that Aldus will incorporate Microsoft Mail integration into PageMaker 4.0, the newest version of its desktop publishing program for the Macintosh. The Microsoft Mail facility will allow PageMaker users on an AppleTalk network to bring mail documents directly into PageMaker documents.

The Microsoft Mail feature in PageMaker, similar to the ones already integrated into Microsoft's own Word

Continued on page 11...

THUNDER Enlightening

The Thunder M.U.G. Newsletter

Volume 7, No. 6

Editor
Michael Samorodny
622-3584

THUNDER Enlightening
is published by the
Thunder Bay Macintosh Users Group
8 Machar Avenue
Thunder Bay, Ontario
CANADA P7B 2Y3

©1990 Thunder M.U.G.
Portions of this publication may be reprinted without permission provided credit is given to the author and to Thunder M.U.G. Exchange of newsletters with other users groups is welcomed.

Thunder M.U.G. Executive

President
Shawn Bishop
344-0052

Vice President
Vacant

Secretary/Treasurer
Don Henderson
344-4029

Disk Librarian
Shawn Bishop
344-0052

MEMBER MNS MUG NEWS SERVICE™

Removable media: BEWARE

by Fred Showker

Everyone has their own horror stories. Just get in a crowd of Mac users and comment on how badly your hard drive crashed, and sit back prepared to hear stories far into the night. I won't bother you with mine. Yet, I feel I must pass along a nice tidbit of info which was told to me by the chief technician at one of the large removable media drive manufacturers.

Chances are, you've heard about the removable media craze and the benefits thereof. We saw the obvious advantages of these mechanisms right away and wasted no time in purchasing one. This launched us on a roller-coaster, merry-go-round of stress, misery and uncertainty that you should avoid. What do you say when you have six 45 Meg cartridges filled with data and can't be sure any of them will boot the next time. Sound scary? Read on.

We had another cartridge go down. They follow the same scenario - little glitches get bigger. Then one day it simply refuses to allow files to be copied to the cartridge. Upon re-tries the mechanism goes into a nonstop read, then twitters to the inevitable crash. At that point there are two options: return for replacement or file 13.

This was our fifth cart to die - the second in three months. So I called, and talked with the technician. According to him - it's an epidemic. They [the manufacturer] are running a 40% recall rate. He further assured me that, "It's not likely to end. " And if you happen to wonder (as I do) why MacWorld and MacUser seem to return beaming reviews, rating these drives so high - and problem-free, just count the number of ads devoted to removable media.

Here's the way it was explained to me: When a particular drive mechanism manufacturer went to 20ms access time they pushed the mother board to produce unusually high temperatures. The heating/cooling cycle causes the head to write info in slightly "different" locations each time. As the head returns for repeated seeks, it has to compensate for this "riff." These cartridges are coated with a super slippery coating which allows the particles of dust and pollution to be "spun off" during boot up. As the heads become progressively more erratic while searching for and compensating for these "riffs" in data locations, the vibrations cause the heads to lightly "touch-down" on the media. He termed it "mini-crash." You don't know it has happened and you merrily go about your way thinking, "man this is great!" Each time the head reaches one of these "mini-crash" addresses, it happens again. At some point the silicon coating becomes chipped and these exposed points of media oxidize. That's right - rust. If there's data on that spot that you don't use, great. You'll have no problem. If you happen to be doing a lot of copying to and from the drive, or moving folders from disks and/or to the trash can - only to replace the data with new - then you better watch out. This process gets worse the longer the drive is on, and problems are compounded as the cart is used for more read/write activities. If you use a single cart every day for your main drive, the inevitable comes sooner. If you use the cart for long term data storage with very few power-up cycles or read/writes, you might be okay. The tech indicated he had seen carts with literally "hundreds" of these oxidizing spots.

I couldn't believe what I was hearing - but it all began to fit. This tech recited the scenario of events exactly as they happen in our shop each time a cart goes down. To make the situation even worse, the user's first reaction to trouble is to run analysis software - disk tune-up, or de-fragmentation software. This, according to the tech, is the worst thing you could do. These programs cause continual reads of the entire drive's media - reading over and over - causing your problem to multiply all over the cart. If the crash is ever going to happen - it will most likely happen during the analysis software procedure. And that's exactly the way our last cart went down. The

Continued on page 9...

Hard Disk Management

by Doug Houseman

On average, a company of 200 employees will have one to two hard disk problems per week and will lose an average of 7 megabytes of data. The cost to such companies of paying employees who have to reenter such data may be thousands of dollars per year.

In 99% of the cases where a hard disk has a mechanical failure, the data is unrecoverable. The mean time between mechanical failure of a typical hard disk is 12,000 hours, which means that 90 percent of the manufactured units will last at least 10,000 hours. It also means than ten percent of such units will not last that long.

The mean time between failures ratings differ for different brands and types of hard disks. The typical Seagate ST235 or ST238 is rated at 10,000 to 15,000 hours. Maxtor hard disks are rated at only 9,000 to 12,000 hours. Hard disks manufactured by Northern Telcom have the highest ratings at 50,000 hours. The old adage that you get what you pay for applies to hard disks (with the exception of IBM hard disks, where you are paying for the IBM logo). The more you pay for a hard disk, the longer the unit is likely to last.

It is therefore important, when you buy a hard disk, to ask for the name of the manufacturer of the unit, the specification sheet for the unit and its mean time between hardware failures.

Fortunately, most hard disk problems are software problems rather than mechanical ones. While the cost of losing the data may be the same, the hard disk unit itself can be restored merely by reformatting.

One common cause of hard disk problems is the disk head crash. The magnetic heads may strike the surface of the disk and damage the recording surface. If the heads are over a noncritical portion of the disk, no more than one or two files may be lost. However, if the heads strike the area of the disk where the file allocation tables (FAT) and root directory are kept, all of the data on the hard disk may be lost. It is extremely important to maintain current backups of your hard disk.

The first line of defense against hard disk failure is proper hard disk management. Proper management of a hard disk can extend its mechanical life. In addition, proper management minimizes the software problems.

You should never fill your hard disk to more than 80% of its' capacity. It makes the hard disk work harder to fit things in and increases wear on its components. You should partition your hard disk, which reduces wear, by reducing the distance the heads have to move to handle data. It is also a good idea to keep files which are used infrequently in a partition separate from data base files and other data files which are accessed frequently.

To assure sufficient capacity when you upgrade your hard disk, you should acquire one that will hold at least twice the data that is stored on your old hard disk. If the old hard disk is already filled to capacity you should add at least another 20% to such doubled capacity. If you plan on storing graphics images on disk, plan on buying even more capacity, since graphics files tend to take up a lot of space on the disk.

Knowing where your software came from also helps protect your hard disk, since computer viruses are a real hazard to hard disks. You should acquire public domain software only from persons you trust or commercial bulletin board systems. If you download from a commercial system, you should wait until a program has been on the system for a week or two before downloading it, since someone else will have tried it and reported any virus problems to the sysops of the system.

The only safe way to run a program that you are not sure about is to disconnect the hard disk and run the program from floppy disks. It is also a good idea to segregate any floppy disks with such programs from the rest of your floppies.

There are at least 36 different viruses which can affect IBM compatible computers, 9 which can affect Macintosh computers and over 100 written for CPM computers. The worst of such programs erase the FAT on all accessible disks, including hard disks.

Viruses are not limited to non-commercial software. Pagemaker version 3.0 originally shipped with a virus. The latest version of Ventura Publisher for the IBM had virus problems. One OEM version of the CPM operating system was found to have no less than four different viruses. In each case, less than 1,000 copies were shipped before the virus was discovered and the purchasers were identified and warned, so that the damage was minimized. It is wise to periodically use a hard disk cleaning utility to defragment the files on your hard disk. Such files, over a period of time, tend to become scattered in fragments over the disk rather than stored in consecutive sectors. Defragmenting the disk moves the files around and stores them in consecutive sectors. Such cleanup reduces the number of head movements necessary to access a file, which reduces wear and leaves a long unbroken area at the end of the disk in which new files can be stored without further fragmentation. It also cleans up directories which may have damaged entries which could cause problems for the hard disk.

The benefits of tape backups. Tape backups not only protect data but also provide a convenient way of relieving overcrowding on hard disks. Little used files can be archived on tape rather than kept on the hard disk.

A good tape backup system will provide software which permits backups to be made in the background while the computer is being used for other purposes. This is because making a tape backup takes a great deal of time. The current generation of Macintosh tape drives is only capable of 2 megabytes a minute during back-up or restore. An 80 Megabyte disk will take about 40 minutes to back-up or restore.

Obviously, floppy disks may also be used to back up hard disks. Programs dedicated to backing up data to floppy disks can be purchased for as little as $39.95. Some of them are quite slow, however, and some don't even format disks while making the backup. Even with the fastest backup programs, the user must change the floppy disks as they become filled. If you decide to use floppies as backups, it is worth while to pay the extra amount necessary to get a good backup program. Buy the program from the source i.e. Fastback directly from 5th Generation. This will ensure that you have the latest version of the software and the latest version of the read me file on the disk. That read me file is there for a reason and should be read before using the software. For instance the 1.44 MB floppy on the IIx has some quirks and the user should be aware of them before you use the programs that use the floppy drive on the IIx.

A business should require that all of its hard disks be backed up every day. A Grandfather/Father/Son backup system. Such systems maintain three separate sets of backups. The three sets should be rotated so that one set is replaced with a complete backup each week and updated for the remainder of the week with daily backups of the changed files. If this system is used, you have good backups going back as far as three weeks. If a problem occurs with the most recent backup, you lose a maximum of one week's changes in the data. This is also a good way to ensure that your system can be restored if it becomes infected with a virus. Normally with a virus, it will take a user a week or so to realize that a virus exists on the system.

A good backup program prints out a catalog of each disk or tape. Such a catalog should be printed out and kept with the disks or tapes. A copy of a hard disk backup should be stored outside of the office. Backups are of no use if they burn up with the computer in a fire.

Backup tapes are of limited usefulness if they can be read only by the drive which wrote them. If the computer in which the drive exists is destroyed or stolen, it may be impossible to recover the data on the tapes. Ensure that compatibility of tapes between units is guaranteed before you buy a tape drive; not only for the same model of tape unit, but also between all models.

Your other choices include the MegaDrive from Jasmine and the Syquest 45 Megabyte removables from several manufacturers. The Megadrive has a known record of breakdowns and the Syquest drives are close enough to hard disks that the users normally use them as hard disks rather then backup devices before to long.

This is a disclaimer: I work for Irwin Magnetics, and they manufacture tape drives for the Macintosh. I do have some interest in selling these products. But I will not recommend hardware or software that a user does not need.

—Doug✍

MUG NEWS SERVICE, 1990
Reprinted from MacTechnics, February, 1988

Hard Drive Break-up

Fred Showker

These are the days of the large storage hard drives. And with these new behemoths come a whole new collection of problems. One problem you'll notice right away is the amount of time it may take to do some operations. Our recent purchase of a 100Meg Rodime internal drive prompted some changes in the way we approach storage organization.

Someone gave us the tip to partition the drive. Partitioning your drive will have the effect of dividing your drive into smaller drives. There are numerous software packages that can perform this feat for you - the one we use is from the Symantic Utilities package. SUM Partition allocates space on your hard drive to your specified sizes and creates a hard, software block of storage. We broke our drive into three drives: a 20 and two 40s. On the desktop or at start-up, we can mount or unmount these at will. These drives appear as icons just as if they were daisy-chained external drives.

Probably the most important advantage is the security factor. Each partition contains its own directory and desktop file. If the drive experiences problems, chances are, it will only do serious damage to that particular partition. You can also drag items from one partition to another and actually create a back-up. Some folks keep two 20Meg partitions and drag those contents back and forth for back-ups and defragmenting. Our 20Meg partition is the client library which gets regular floppy backups. We don't have to worry about the rest of the drive once it's backed up the first time, because those files are unchanging items like applications, utilities, and nearly 40Megs of fonts.

The second advantage of partitioning is speed. Launching documents, finding documents, opening folders, removing folders, and a number of other operations require the finder to read and update the desktop file and/or the drive's directory. It's a continual process and in a storage device capable of holding thousands upon thousands of items, this can take time. With a partitioned drive, operations within a particular partition need only to read and update that directory/desktop file. The same holds true in searching for files. DiskTop (CE Software) or other file-finding utilities will find an item much faster in a 20 or 30 meg partition than reading the entire drive. Reading a 60K file obviously takes less time than reading a 260K file.

If you're running a drive with more than 40 Megs, you should use the partitioning software that came with the package. I strongly recommend the purchase of SUM utilities from Symantic. Once you've discovered the pleasures of partitioning, you'll never go back!✍

MUG NEWS SERVICE, 1990

Hard Disk Fragmentation Explained

As hard disks are formatted, sectors or information spaces are formed on the disk. With SCSI (Mac) disks those sectors are normally 512 bytes (characters) in size. When the disk is freshly formatted and empty it looks like the disk in figure 1.

Figure 1: This is a new freshly formatted hard disk simplified. There is no data on the drive.

When you first load your hard disk the files are placed in the sectors one right after another. These sectors then can be accessed by the head on your hard disk without it having to move very much. This is called a "clean" or unfragmented disk. This disk is shown in figure 2.

Figure 2: This is a freshly loaded disk drive. Each pattern is a separate program.

When you use your hard disk you will delete and add files to the disk. This will create unused or free space in different places on the disk. For instance we have shorted the file called program 1 and created an area of free space. We have also deleted program 4 and created another small area of free space. See figure 3.

Figure 3: This is a hard disk with a few programs added and a few deleted that has not been defragmented.

Figure 4: This is a disk with a fragmentation problem.

Now that we have added program 5 to the disk that program is fragmented or split. The program was too large to all fit in the area that program 1 used to occupy, so the disk controller put the rest of the file in the area that program 4 used to occupy. This leads to a hard disk that will be working harder to get your data. This will slow down the hard disk and it will wear out the hard disk faster.

Figure 5: This is the fragmented disk that has been optimized.

With the *Disk Express* program or a similar program, we can defragment (or optimize) the disk by moving programs around on the hard disk, this will place all of a file together on the disk if there is room. The disk should be at least 10% empty when you optimize your disk so the computer has some place to put files while optimizing. This operation makes your drive work very hard, so unless you are copying a large number of files to and from your disk, do not do it more then once a month. Also do it at least once every 2 months.✍

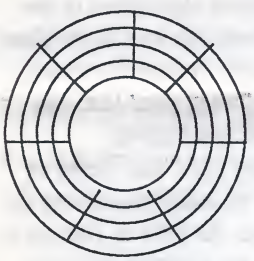


Figure 1

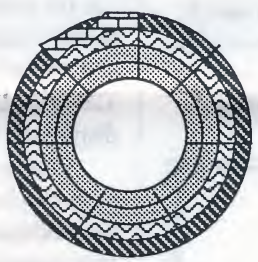


Figure 2

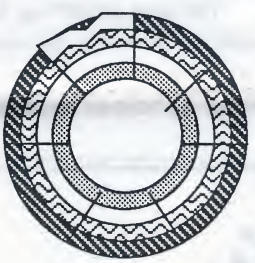
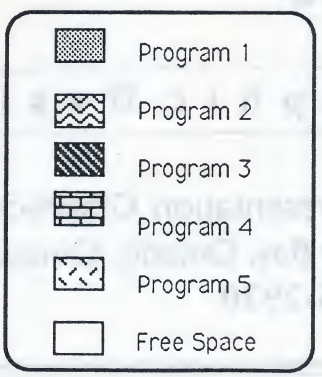


Figure 3

Figure 4

Figure 5



The Finder's Helper

Fred Showker

Reading the documentation to a recently purchased CD package lead us to a neat discovery I wanted to pass along.

As you probably know, CD drives are slooooooooow. Some are as much as thirty times as slow as the hard drive you're using. Since CDs are capable of storing so much data, they have huge directories. The search/seek/read time is multiplied many times over. To make things worse, some CD driver software doesn't "disconnect" the CD from the desktop when it's not in use. We noticed on a borrowed NEC drive, that even opening folders in other folders on our hard drive caused the CD to launch to life and begin reading.

The front-end to this particular CD Disk package included a little system file called "Desktop Manager." The docs said put this in your system file and it will help. We did so and sure enough it really seemed to give the stodgy old finder a boost. We went on to learn that Desktop Manager is a finder enhancer which was developed by Apple for use in network environments. Apple ships it with the AppleShare package.

We can't tell you exactly how it performs its magic, other than creating a second desktop file. We do know however, that when you place it in your system folder (6.0 or later) and re-boot, your finder won't need nearly as much time maintaining the desktop file as it did before. Things will be faster from that point on. Oh, by the way, it didn't help the CD drive at all.

If the Desktop Manager is not available from your user group, just ask your friendly Apple dealer. Don't forget to take along a blank disk.✍

MUG NEWS SERVICE, 1990

(Fred Showker is Associate Editor for the Mug News Service. "60 Second Windows"™ are from the graphics studios of Showker Graphic Arts & Design... and brought to you the Mug News Service!)

A Font Lesson

By Bill Davies

The recent purchase of a used Macintosh Plus by a person in my office reminded me of the conceptual difficulties that new users encounter with the Macintosh font system, especially when using an Apple LaserWriter NT™ printer. If you're using an ImageWriter™ II printer, your Mac prints what is on the screen at the same resolution of the screen, 72 dots per inch (DPI). It does not matter which fonts you use in your document or how you mix and match them. If you later decide to print on a laser printer, things become more complex if you want professional looking output. You could elect to have the Mac print on the laser printer at the functional equivalent of 72 DPI, but then you would not be maximizing the use of your laser engine, which is capable of a resolution 4 times greater.

What Apple doesn't tell new Mac users is that the LaserWriter recognizes certain fonts and always prints those fonts at its top resolution. How would a new user know this? Most likely you wouldn't, unless you had a utility to tell you which fonts were laser fonts and which were not. Such utilities do exist, and many are in the MacNexus disk library. However, it is usually quicker just to ask someone in the know about fonts. The trick is to create documents that incorporate only laser screen fonts. This guarantees top quality printed output as well as the most accurate WYSIWG on your Mac monitor. I am continally amazed when I see new users printing the Cairo or Hollywood fonts on a laser printer and then asking me why the printed page is not as pretty as Apple's marketing literature for the LaserWriter.

"What if you have a font menu with 50 fonts listed? How will your page print? Which fonts should you use?"

The answer is that the printer is being asked to print a font that it does not recognize; consequently, the printer prints the font as a smoothed rendition of the screen image instead of drawing an exact mathematical representation taken from a chip (ROM) in the printer.

The next stumbling block is conceptualizing how you, the user, can convince your Mac to tell the LaserWriter to use one of its built-in fonts. What if you have a font menu with 50 fonts listed? How will your page print? Which fonts should you use? The fonts listed here are resident on a silicon chip inside the Apple LaserWriter NT printer: Avant Gardë, Bookman, Courier, Helvetica, New Century Schoolbook, Palatino, Symbol, Times, Zapf Chancery, and Zapf Dingbats. This means that the printer already knows how to draw these fonts and does not have to rely on the image projected on your computer screen.

To access the fonts built into the LaserWriter, the user must generally use a corresponding font on your Macintosh screen (I will avoid a discussion of the "font substitution" checkbox in your Page Setup dialog to simplify this article). So if you want to access the printer font Palatino, you must install the screen font Palatino, which is contained in one of those little font suitcase icons that we all have come to know and love. You now have a method to tell the computer which font you wish to use when your document prints; merely type your document in Palatino at any size, shape, or style you choose. When your document arrives at the LaserWriter and identifies itself as being in the Palatino font, the printer will use the mathematical algorithms in the printer chip to create the font in the sizes and styles contained in your document. The limitations of what your Mac can display on its screen disappear.

One important note: this theory of page preparation virtually guarantees device independence. As long as you use a font contained in the printing device's ROM chip, your document will print at the resolution of the printing device. It doesn't matter if you're using a laser printer (300 DPI) or photo imagesetter (600, 900, or 1200 DPI). It also doesn't matter how bad your document looks on the screen, since the printer does not use the screen image to render the printed page. Because the printer contains a page description language (in this case, Postscript®) to interpret your document and lay out the page, what you see on your screen at 72 DPI is only a gross represen-

Gail Janelle
Graphic Design
Computer Generated Presentation Graphics
368 N. Court St., Thunder Bay, Ontario, Canada
(807) 345-2930

tation of the tricks the printer can perform mathematically on your page image. This is probably the single most important difference between a Postscript laser printer and an Apple dot matrix printer—the capability to mathematically scale, rotate, shade, and otherwise manipulate font images. In fact, when the LaserWriter was first released, it was marketed as Apple's "most powerful computer."

"when the LaserWriter was first released, it was marketed as Apple's 'most powerful computer."

What to do if you don't like the fonts that Apple provides in the printer? That is where "downloadable fonts" come into the picture. To use laser fonts that are not resident in the printer, you need to buy Postscript fonts (Adobe is one brand) and load the provided screen font into your fonts file and place the corresponding "downloadable" font file into your System Folder. Use of the purchased laser screen font in a document will then automatically trigger the operating system to "download" the non-resident Postscript font to the printer's memory to print the page in question. The operating system will download as many fonts as required by the page currently being printed, up to the memory limitations of the LaserWriter. If different fonts are required for the following page, the printer's memory will be automatically flushed so that it can accept the fonts needed for the next page.

If you've gotten anything out of this article, it will be that the LaserWriter NT and NTX printers know how to do a lot of math to draw your page. People always ask me why they shouldn't buy a LaserWriter SC, and it has never been easy to provide an explanation of the pros and cons of that printer. In a nutshell, the SC doesn't have the brains to do all that font math, and can't scale or rotate text without losing resolution. The SC uses a laser light beam to draw a precise rendition of what is on your screen. The Mac does most of the work to create the image of the page. Output looks fine as long as you don't want rotated text or fill text or shaded text. As mentioned in the June 1989 issue of Interface, if you have a screen font sized at 4X the size of your typeface on the screen, the SC will print your document with the dots 4X closer together to make the letters appear sharper and denser. (The ImageWriter works the same way, except with a ratio of 2X; this feature is triggered by printing in "Best" quality.)

With System 7.0, we'll see improved screen font rendition to get rid of the "jaggies" on your screen. Once your screen is able to display text in any point size without distorting or looking chunky, the SC will be capable of much improved output. The downside is you will need to have at least 2 megabytes of RAM just to use System 7.0. The new Apple scaled fonts will yield gorgeous results on the screen. Before you run out any buy memory for System 7.0, keep in mind that an 8 x 10 inch page rasterized at 1200 DPI yields a bitmap of such resolution that it occupies 14.4 megabytes for the image. Apple obviously has to either produce Macs that can address more memory or use part of your hard disk to simulate memory to make these scaled fonts work in a reasonable manner.

In the interim, keep your eye on Adobe's ATM (Adobe Type Manager) product, which is available now and will create a smooth screen rendition of any font at even the most outrageous sizes. The Adobe product is designed to provide a much more accurate screen representation of what your document will look like without giving up the benefits of Postscript. This is not surprising, given that Postscript was developed by Adobe and will still be used for all printing. Apple recently sold all of its Adobe stock but has promised to continue to support Postscript in a manner similar to the ATM. In either case, the benefit to you as the user will be a much crisper display of font characters on your screen, with the corresponding ability to obtain high quality printing from a large number of low priced devices like the SC. While this new font technology may make the SC the dark horse of Apple's printer product line, I don't think LaserWriter owners should start selling their machines and trading down, as there will undoubtedly be new tricks in store for your more powerful printers as well.✍

MUG NEWS SERIVICE, 1990

"I am continally amazed when I see new users printing the Cairo or Hollywood fonts on a laser printer and then asking me why the printed page is not as pretty as Apple's marketing literature for the LaserWriter."

CMH Technologies Inc.
Memory Upgrades
Call 345-3605
2 Megabytes Installed.....$300.00
4 Megabytes Installed.....$570.00
Call for latest Prices
TMUG Prices Only. 5 Year Warranty.

New From Kodak: Color Image Compression Software For MACINTOSH II Computer Users

Previously, full-color images, because of size, were unwieldy to work with on your Apple Macintosh II computer. Now, if you use a Macintosh II computer (or higher), Kodak has great news for you at a great price.

Attack of the Byte Hogs
Color is a prodigious memory muncher. A 5" x 7-1/2" color image at 300 dpi requires over 13 megabytes of storage. Convert a 35 mm slide to a full-page color picture and you need an astounding 34 MB. Even small 24-bit color files can quickly gobble 2 MB.

Modem your image and your phone bill may come by truck. A measly 1 MB file sent at a brisk 2400 baud can take about an hour and fifteen minutes to transmit.

Obviously, color is not a game that memory-misers could play.
Until now.

Inexpensive, Easy to Use
Eastman Kodak Company has just introduced KODAK COLORSQUEEZE™ Image Compression Software, a friendly package (listing at $179.00) that can greatly reduce image storage and transmission costs.

KODAK COLORSQUEEZE Image Compression Software can reduce 24-bit PICT and TIFF files up to 50 times.
(Even higher reductions can be achieved, depending on the amount of detail in the image.)
Reconstructed files can be saved in PICT or TIFF formats, or copied to the Scrapbook or Clipboard.

How It Works
Since adjacent pixels in an image contain the same information, or change gradually in predictable ways, this redundant data can be compressed without serious image degradation. The human eye has a role here, too. We are most sensitive to horizontal and vertical lines, and perceive diagonal lines less clearly. Kodak engineers designed this software to take advantage of these factors, using a compression algorithm known as "discrete cosine transformation." And they got impressive results.
It is almost impossible to distinguish between an original and a reduced image reconstructed from 10:1 compression. Most people can't tell the difference between an original and an 25:1 image. Even at higher reductions, you won't notice any loss of viewing quality with most images.

New Color Image Compression Software From Kodak

Now KODAK COLORSQUEEZE™ Image Compression Software saves memory, minutes and money for Macintosh II computer users.

You can compress 24-bit PICT and TIFF files up to 50 times (depending on the amount of detail in the image) and retain remarkable image quality. Store approximately 65 compressed images on an 800K diskette.

KODAK COLORSQUEEZE Software is fast: compress or uncompress a 768K image on a standard Macintosh IIcx computer in less than forty seconds. Plus, you can quickly view multiple images with our unique "thumbnail" files. Conforms to emerging JPEG international standards.

Special offer to MNS readers: Order now and save $25 off the regular price. Regularly $179, it's yours for just $154 if you order by August 1, 1990. Use your VISA or MasterCard and call toll-free 1-800-233-1650, Ext. J (in NYS: 1-800-233-1647, Ext. J) 8-5 EST.

ELECTRONIC PHOTOGRAPHY DIVISION

©Eastman Kodak Company, 1990

Memory Requirements Chopped
At various compressions, a typical 768K image file is reduced to between 15K and 154K. A 3.5" disk that could previously store just one non-compressed image can now hold up to 65 of the compressed Kodak Image Compression files. An Apple FDHD drive and 1.44 MB disk could store up to 115 such files. There are obvious savings here. And the data contained in the compressed file format supports the emerging Joint Photographic Export Group (JPEG) international standard.
Kodak is a member of the JPEG committee.

File processing is fast, and most users will want to use KODAK COLORSQUEEZE Image Compression Software routinely for archiving or backing up color images. A typical 768K image file can be compressed in less than forty seconds on a standard Macintosh IIcx computer. Faster models, like the new Macintosh IIfx computer, can accomplish the same task in less than half the time.

Unique "Thumbnail" Feature Allows Quick Image Preview
Hard drives can store multiple compressed files and deliver fast access. And these compressed files include information that allows them to display a small "thumbnail" of the image. Users can quickly view a series of images before selecting one to reconstruct. Kodak expects applications developers to use the compressed file's thumbnail information for positioning in desktop publishing packages or for image database applications. The program runs under Macintosh system 6.0.3 or later, and future releases of this software will have internal "hooks" to allow other packages to tightly integrate with the utility under the upcoming release of Macintosh system 7.0. By conforming to Apple's Interapplication Communications (IAC) standards, Kodak will pave the way for appli-

cations developers to use KODAK COLORSQUEEZE Image Compression Software to compress and uncompress images as their products need to do so.

Specifications
Hardware Requirements: Macintosh II computer, or later.
Operating System Requirements: Macintosh system 6.0.3 or later.
Multifinder Compatible: Yes, with a minimum of 768K allocated to this application.
Compression Ratios: Low, medium and high; user-selectable. Ratio varies with specific image.
File Compatibility: Opens PICT, TIFF and Kodak Image Compression files; saves 24-bit PICT, TIFF and Kodak Image Compression files; copies to Scrapbook and Clipboard.

SPECIAL FOR MUG MEMBERS

Save $25 on KODAK COLORSQUEEZE™ Image Compression Software

Order between now and August 1, 1990 and save $25. Regularly $179 - now only $154. Use your Visa or MasterCharge card to order by calling 1-800-233-1650, Ext. J (1-800-233-1647, Ext. J in NYS) 8 am - 5 pm EST, weekdays... FAX orders to 1-716-588-4807 anytime... or use this coupon. Include state and local sales tax.

User Group _____
Name_____
Address_____
City_____State____ZIP___
MasterCard # VISA Card #
_____
Expiration Date_____
Signature _____

Mail to: Eastman Kodak Company
Advertising Distribution
Mailcode 00802,
343 State Street
Rochester, NY 14650-0802

There's a KODAK Video Printer Ideal for Image Management
Kodak's latest innovation in color printing, the KODAK SV6510 Color Video Printer, couples patented continuous-tone thermal print technology with a number of unique features to allow convenient hard copies of video or digital images from VCRs, optical disk players, video cameras, framestores and computers. Typical applications include training, education, medicine, identification systems and general image management functions.
Specific uses include advertising, graphics, CAD/CAM, microscopy and architecture.

The new color video printer provides over 16.7 million colors per pixel. It can print multiple copies of individual images and has switchable black-and-white or full-color printing. The unit can print a single 4" x 5.2" print or four 2" x 2.6" images of the same subject. The KODAK SV6510 Color Video Printer accepts standard NTSC and RGB video inputs, and will accept an RGB input with the sync signal
superimposed on the green. A forced-capture capability allows operators to salvage images even when incoming signals have faulty sync information.

The unit has a suggested list price of $4500.00. The KODAK SV630 Interface Kit, for Macintosh computer applications, lists for $600.00. With this kit, you can capture and save images as PICT and TIFF files, open and print these files, use a screen capture utility to save images as EPS files, make color corrections, crop and manipulate images and take advantage of other special features.

To schedule a demo for your user group, call 1-800-445-6325, ext. 113. If you'd like the name of your nearest dealer, call the same number.✍

Removable Media...

continued from page 2

analysis software returned only a handful of bad blocks. (Not to worry, all drives have bad blocks - you just don't know about them.) As the analysis progressed the errors got more and more frequent - turning from soft errors to confirmed hard errors - first hundreds, then every single block. Suddenly the drive went into an uncontrollable, jittering convulsion and crashed. Remounting attempts would not even recognize the cart - nor could it be reinitialized. Gone. Period. End of cartridge.

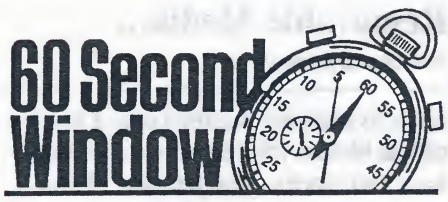
We're now on our third drive mechanism and have had to replace all but one (out of six) of our $100 cartridges. Thank goodness we were only in our 9th month of the one-year warranty. They'll replace it - but it seems they're 30 days behind. I noticed something very interesting about my RMA (return merchandise authorization) number. I was able to prod the person in charge of returns to confirm my suspicions. Just 90 days (to the day) since my last return, she had authorized the return of more than 300 devices. Hmmm, glad I kept my previous number.

I'm not alone, either. I posted a message on GEnie and got hundreds of replies from users with similar problems. To be fair to the various manufacturers involved, I also got beaming endorsements of the product. Evidently, some of these mechanisms are good and some are not. What you have to decide is how valuable your time and data is.

If you happen to be running one of these drives with no problems - GREAT! Send me a blank disk and I'll send you the same analysis utility the tech uses. Go ahead, run it - ask it to run the routine 3 times.

Wait. Before you start, you should probably make sure you have your dealer's number, your registration number and date of purchase handy by the phone.✍

MUG NEWS SERVICE, 1990
(Fred Showker is CEO for Showker Graphic Arts & Design, and is Associate Editor for the Mug News Service. ©1990)



Extortion, revisited

by Fred Showker

Have you paid this year's Aldus extortion money yet? I haven't either. Unfortunately though, I probably will.

Each year about this time, I do my annual "knock-Aldus" article. How much do you have invested in PageMaker? Did you start with the original? If so, you probably have close to a thousand bucks invested. 4.0 will be no different - except the price is higher, you'll need more memory, it will come on more disks, and you'll probably have to buy 4.1 in September when System 7 comes out.

What gets me is that last spring I decided to pay extra for the upgrade plus "extended support" which I've never used. My original registration number is four-hundred-nine. The brochure said if I pay the extended support ($150) I would get free upgrades for one year - and the grapevine was already humming with upgrade rumors.

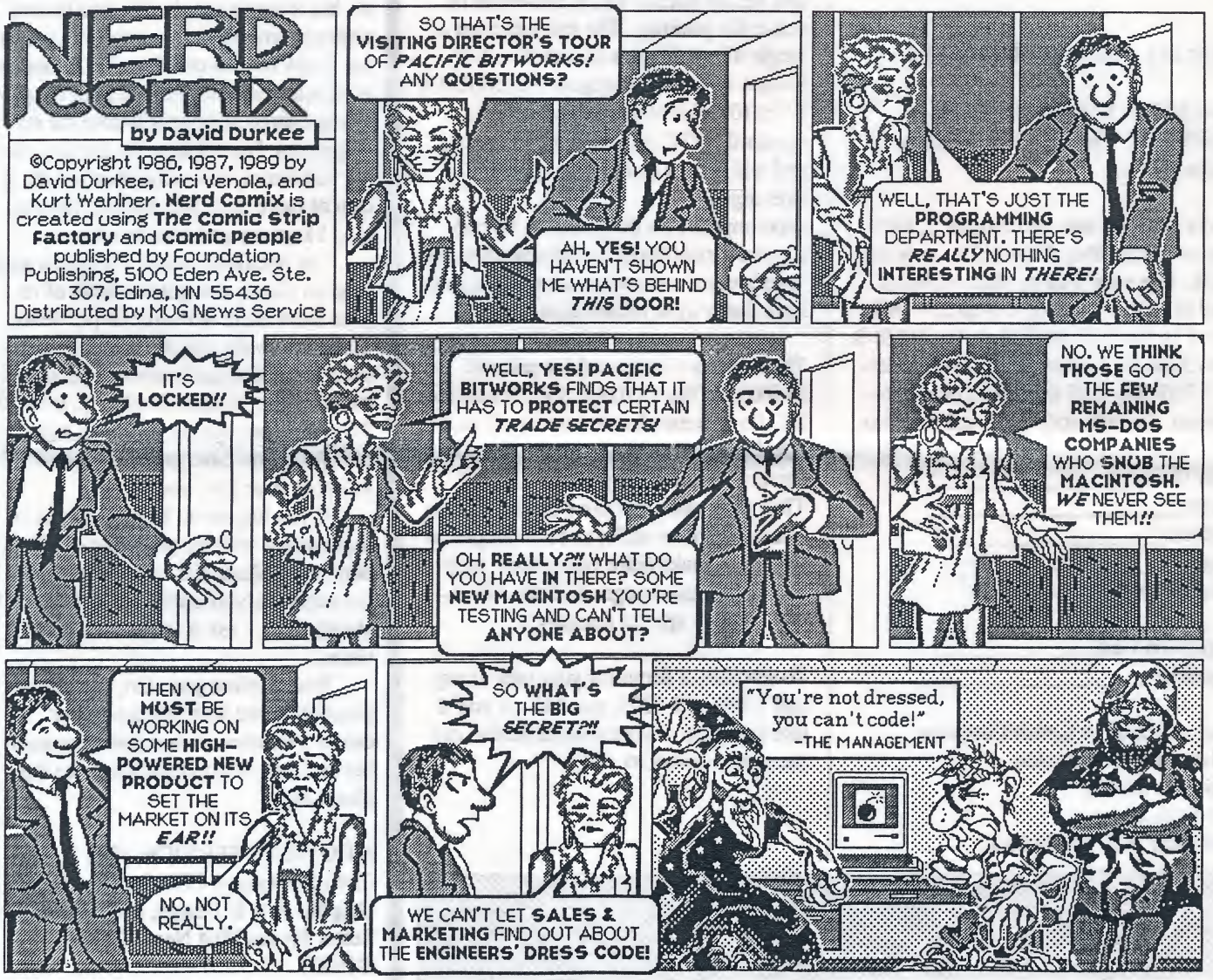
Now, the upgrade lady tells me that's not the case. She calls 4.0 a "Major Upgrade"... something that was not mentioned in last year's "extended support" brochure. A little math tells me I will actually be paying more for my upgrade than the other poor slobs awaiting the pie-in-the-sky version of PM. Should I do it?

Well, they've given us rotating text - 90° only, mind you. Great. now we'll see a slew of newsletters with rotated type. Wonderful. The one thing that Aldus' own golden child, Roger Parker, tells us to avoid in his "Looking Good In Print". Well, they've given us the "story editor." Now we can corrupt our text in its own window. The list goes on. It reads like ReadySet Go's second upgrade two years ago.

What I wonder about is what do we have to look forward to in 4.1, 4.3, and on till 5.0. Still no multiple windows... still no color separations (unless you spring for Aldus' $495 PrePrint)... still no line pattern option... still no percentage scaling. What else? How many disks do you suppose 5.0 will be shipped on - eight? Maybe ten?

Maybe I should wait. What do you think?✍

MUG NEWS SERVICE, 1990


NERD comix
by David Durkee
©Copyright 1986, 1987, 1989 by David Durkee, Trici Venola, and Kurt Wahlner. Nerd Comix is created using The Comic Strip Factory and Comic People published by Foundation Publishing, 5100 Eden Ave. Ste. 307, Edina, MN 55436 Distributed by MUG News Service
SO THAT'S THE VISITING DIRECTOR'S TOUR OF PACIFIC BITWORKS! ANY QUESTIONS?
AH, YES! YOU HAVEN'T SHOWN ME WHAT'S BEHIND THIS DOOR!
WELL, THAT'S JUST THE PROGRAMMING DEPARTMENT. THERE'S REALLY NOTHING INTERESTING IN THERE!
IT'S LOCKED!!
WELL, YES! PACIFIC BITWORKS FINDS THAT IT HAS TO PROTECT CERTAIN TRADE SECRETS!
OH, REALLY?!! WHAT DO YOU HAVE IN THERE? SOME NEW MACINTOSH YOU'RE TESTING AND CAN'T TELL ANYONE ABOUT?
NO. WE THINK THOSE GO TO THE FEW REMAINING MS-DOS COMPANIES WHO SNUB THE MACINTOSH. WE NEVER SEE THEM!!
THEN YOU MUST BE WORKING ON SOME HIGH-POWERED NEW PRODUCT TO SET THE MARKET ON ITS EAR!!
NO. NOT REALLY.
SO WHAT'S THE BIG SECRET?!!
WE CAN'T LET SALES & MARKETING FIND OUT ABOUT THE ENGINEERS' DRESS CODE!
"You're not dressed, you can't code!" -THE MANAGEMENT

News... continued from page 1.

and Excel programs, will also allow, through a PageMaker menu choice, the sending of PageMaker documents via Microsoft Mail through the network. Commenting on the announcement, Mark Craemer, product manager for Aldus PageMaker, said: "Microsoft Mail integration makes sharing PageMaker files throughout an organization simple and straightforward. This is an important new capability for many of our users since several individuals are often involved in creating and reviewing documents."

Aldus performed the integration of Microsoft Mail into PageMaker 4.0 through the use of Microsoft's Applications Programming Interface (API) for Microsoft Mail which aids developers in marrying their applications with the Microsoft product. Other APIs available for Microsoft Mail integration are MPWR C Software Development Kit for Microsoft Mail, the Microsoft Mail Software Development Kit for HyperCard, the Microsoft Excel Software Development Kit for Microsoft Mail and the 4th Dimension Software Development Kit for Microsoft Mail

LOW-PRICED MAC

Reflecting the views of its parent company, Apple Computer Japan is talking about a low-priced Macintosh for the U.S., European and Japanese markets. In the latest issue of Business and Technology, a Japanese daily industrial newspaper, Apple Pacific's Senior Vice President and President Ian W. Diery says Apple will come out with a Macintosh priced lower than that of Mac Plus. The lowest price Macintosh available in Japan is 260,000 yen or $1,735 for the Macintosh Plus.

Apple Computer Japan expects to achieve 150 billion or $1 billion sales, which means a more than 10 percent share of the Japanese personal computer market. Apple thinks a low-price is the key to develop the Japanese market while maintaining its original and specific features, such as its user interface.

On the other hand, Apple Computer Japan has established its branch office and exclusive shop for Apple products, Apple Center, in Osaka, following a similar center in Tokyo. Diery says it plans to have 100 Apple Centers within five years will boost its work force from a current 130 to 1,000 by 1994.

ONLINE MAC SERVICE

Ziff-Davis Publishing Company has announced the start of an online information service focused on the Apple Macintosh family of products and related software and peripherals. The service, ZMAC, draws on the data of Ziff's MacUser and MacWeek publications, and is available through the Compuserve Information Service. The initial features of Zmac include a buyer's guide, news reports, programming tools, downloading library, forums and technical support tips.

Additionally, Zmac subscribers can also retrieve full text of both MacWeek and MacUser articles through a link with Computer Database Plus, Ziff-Davis' online database of 150 computer-related publications, including the Newsbytes News Network.

GARFIELD VIRUS

The Garfield virus has been discovered at Cornell University. It is a contagious although relatively harmless virus, according to Symantec, maker of a software program designed to detect and destroy it. The company reports that the virus attacks both applications and system files by adding its viral resource and renumbering the system menu definition in the system file.

The company says its SAM antivirus program, version 2.0 or higher, currently provides a method of detecting and wiping out the virus. There is expected to be a version of the shareware programs Disinfectant and VirusDetective, and of Virex, within the next few days, all of which will detect and destroy it. The only other method of eliminating the critter is to replace the file with an uninfected copy.

An MDEF virus, it appears to end-users as menus that do not pop up when they're clicked on. Unlike WDEF viruses which mostly infect the desktop files by adding code, MDEF can affect system and application files. The main symptom are unresponsive menus.

The Garfield virus spreads to other disks in a manner similar to the WDEF virus, either through loading a disk or through launching an application. The name "Garfield" is not due to any appearance of the surly cartoon cat, but is a moniker the virus gives itself on its menu definition. So far, the virus has been isolated to the Cornell University campus, according to a Symantec spokesman, who said he has not received any reports that it has spread further.

AUTOCAD FOR MACINTOSH IIFX

Autodesk says that AutoCAD fully supports the new Macintosh IIfx computer. The minimum system configuration for running AutoCAD Release 10 on the Macintosh IIfx is 4 Mbytes of RAM, Macintosh OS 6.0 or higher, Apple system software 6.0.2 or higher, a compatible monochrome or color display and a mouse.

AutoCAD Release 10 has suggested retail price of $3,000.

MACRECORDER UPGRADE

The MacRecorder Voice digitizer has an upgrade which allows users to record voice into sound-supporting applications, such as CE Software's QuickMail 2.2x, WordPerfect Office Mail, Microsoft Mail verion 2.0, and BrightStar's InterFACE.

These applications are the first programs to incorporate Farallon's Sound Toolkit, a set of programming routines that build up on Macintosh system software, giving developers a standard and easy way to add sound input and playback capabilities to their applications. The MacRecorder Voice digitizer contains a microphone and an analog-to-digital converter. It plugs into the modem or printer port of a Macintosh computer. Both digitizers work with electronic mail or any applications that support sound input, and are fully compatible with the Macintosh Plus SE, SE/30, Macintosh II, IIx, IIcx, IIci and IIfx. The complete MacRecorder Voice digitizer package will be available in a single pack, or 10-packs for large customers that want to make sound a standard capability of all of their Macintosh computers.

The original MacRecorder Sound

System is the complete sound editing system for the Macintosh. It includes a sound digitizer with a microphone input that allows connection to external microphones and a line jack that allows input from CD players or other stereo components. It also includes SoundEdit, HyperSound and HyperSound Toolkit software.

The MacRecorder Sound System has been shipping since January 1988 and is considered a standard for recording sound on the Macintosh. The system is priced at $249. The MacRecorder Voice digitizer is $149. The 10-pack has a suggested retail price of $995. Both single and 10-packs are available and shipping in quantity.

RASTEROPS 24-BIT DISPLAY

RasterOps has released new video peripheral boards for the Macintosh II line. The 24-bit 8L and 24L Display Boards are said to offer flicker-free, multiple-resolution displays for most 13-, 16- and 19-inch monitors. The boards provide system configurations that support image resolutions of 640 X 480, 800 X 600 or 1024 X 768 pixels at screen refresh rates of 60Hz (hertz) or 75Hz. The 8L Display Board offers the same features as the 24L but is less expensive, and can be upgraded to 16.7 million colors by adding additional memory with the RasterOps 8L VRAM Expansion Kit.

The boards support display bit modes from monochrome through photorealistic color with true WYSIWYG (what you see is what you get) display resolution (72 dots per inch), which allows users to visualize the actual printed result. Pan/Zoom capabilities allow two to four times screen enlargement and quick document panning. The Extended Desktop feature creates a bigger desktop window, advantageous when working with large documents.

The 8L Display Board will have a suggested retail price of $1,995, while the 24L Display Board will be priced at $3,995. The 24L is available immediately; the 8L will begin shipping in June. The RasterOps 8L VRAM Expansion Kit will cost $1,995.

SYMANTEC SUM BUNDLED

Symantec has agreed to provide copies of Symantec Utilities for Macintosh (SUM II) with the Platinum Series internal and external SCSI hard-disk subsystems from CMS Enhancements. The Platinum Series of hard-disk subsystems includes internal and external models for single users and networks. The disk subsystems range in capacity from 20Mbytes to 1Gbyte.

Symantec's SUM II is a comprehensive set of disk utilities that perform crashed-disk and deleted-file recovery, back-up, disk optimization and data security.

SHANA TRADE-IN

Forms software vendor Shana is offering a discount to anyone who will swap rival Claris's SmartForm Designer software for Shana's Informed Designer and Informed Mini Manager. For a limited time, Shana said, SmartForm owners can send in one original disk from the SmartForm package along with US$149 or C$115. Shana will send back copies of Informed Designer and Informed Mini Manager, which together retail for US$394. The expiry date for theoffer is not firm, said John Murphy, vice- president of marketing, but it will probably end in late summer.

Informed Designer is a forms design program for the Macintosh, and Informed Mini-Manager is an associated database program. Shana has just announced first shipments of Mini-Manager, which will retail for US$99 or C$115. A more powerful version, Informed Manager, is scheduled to ship in the third quarter.

CANADIAN MACWORLD

Canada's first MacWorld exhibition, scheduled for October 23-25, 1990, has more than half its exhibit space filled and attendees are already seeking registration, Show Manager Roland Klassen told Newsbytes. Laurentian Technomedia of Toronto, an affiliate of international publishing group IDG Communications, which is managing the show, has announced an extra-early registration promotion. Anyone who registers before June 30 gets C$10 off the registration fee and becomes eligible for a list of prizes.

Klassen said the target is 400 exhibitors, and more than 200 are already booked. As for attendees, there is no official estimate, but Klassen said the organizers would be happy with 20,000.

The lineup of speakers for MacWorld has not yet been announced, but Klassen said the organizers are hoping for "somebody high up at Apple corporate" as a keynote speaker. Apple's Chairman, John Sculley, is usually the keynote speaker at MacWorld conferences. Klassen added that Apple Canada is "pushing for a major product introduction at the show."

QUANTUM SUPPLIER TO LEADING EDGE

Quantum Corp. a manufacturer of high-performance hard disk drives for business personal computers and desktop workstations, signed a high-volume supplier agreement with Leading Edge Products Inc. Through the agreement, valued at $20 to $25 million over the next 12 months, Quantum has been established as the primary supplier of 3.5-inch IDE and SCSI hard drives, from 40 to 210 megabytes, for all of Leading Edge's newer model fixed disk systems, including the D3/MC, D3/SX, D3/25 and future personal computer products.

Leading Edge Products Inc. is a subsidiary of the $22 billion diversified manufacturing conglomerate, Daewoo Corp. Leading Edge is a supplier of personal computers, peripherals and office automation products for today's business and computing market.

WRITENOW, INIT CONFLICT

WriteNow 2.2 will not work with Stepping Out II. Turning it off is not enough, it has to be disabled or removed from the system folder. WriteNow 2.2 will boot but will not open a document from the application. It will open a document from the finder but it will not print it. Disabeling Stepping Out II with the INIT CDEV on boot eliminated the problem and everything works as advertised.

Second item is a hint: When installing the Thesaurus, install the WordMaster DA in WriteNow instead of the system file. There is no sense in loosing a DA slot for something that only works in WriteNow.